



California Energy Commission

Southern California Reliability: Contingency Concepts

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Overview

- Enhanced monitoring & monitoring systems track resource development closely
- Contingency Mitigation Measures
 - Measures that can be triggered if primary resources fail to develop on the schedule or in the amounts needed
- Triggering Mitigation Measures
 - Expected resource development falls short compared to reliability requirements
 - Match mitigation to shortfall pattern



MITIGATION MEASURES



Contingency Mitigation Measures

- Mitigation measures are a backstop to assure reliability if preferred resources, authorized generation or transmission are delayed or cannot be acquired
- For preferred resources and transmission, shortfalls may be satisfied by substitute projects
- For aggregate shortfalls, three options being evaluated:
 - OTC compliance date deferral requests to SWRCB
 - IOU targeted renewable DG program
 - Conventional gas-fired projects permitted and procured, but not developed unless triggered



Targeted Renewable DG Program

- Functionality comparable to generators
 - Specific locations
 - Provide reactive power capabilities
 - Telemetry to allow control or schedule updates
- Program
 - Tighter requirements than RAM
 - Projects not developed unless triggered
 - Given requirements – small, uncertain program potential



OTC Deferral

- Functionality
 - Temporary solution – 1 to 3 years
 - Usually permanent solution is in sight
- Illustrations:
 - If needed, Encina (12/31/2017) request would be submitted via SACCWIS about March 2016
 - Possibly consider a second OTC deferral request for a West LA facility with 12/31/2020 compliance dates to be submitted to SWRCB about March 2019



Generator Design Approaches

- Option 1: IOU Chooses Developer, Specific Project
 - Maximize project definition, permitting and procurement authorization upfront
 - Minimize elapsed time from triggering to operational project
- Option 2: IOU Acquires Permit for Generic Project
 - Rely upon IOUs to undertake site control and permitting costs
 - If triggered, still considerable permitting/procurement
 - Minimize upfront costs of “insurance”



Generator Option 1

IOU Chooses Developer, Specific Project

- CPUC approves project planning/permitting process
- IOU acquires developer/site via RFO
- Developer designs project and options key equipment
- Developer secures permit from CEC/AQ districts
- IOU reimburses developer for planning/permitting costs
- Project sits until triggered, if ever
- If triggered:
 - Permits/PPAs finalized
 - Project construction commences (ASAP)



Generator Option 2

IOU Acquires Permit for Generic Project

- IOU acquires site and submits generic project to CEC
- CEC/AQ district process permit (as far as possible)
- If triggered:
 - IOU sells site rights & permit via an RFO
 - Developer defines specific project
 - IOU submits PPA to CPUC
 - Developer obtains permit amendment from CEC/AQ district for specific project
 - Once permitted and PPA approved, project starts construction



TRIGGERING MITIGATION MEASURES



Triggering Mitigation Measures

- Monitoring data is shared among agencies
- CEC is developing a tool to integrate local capacity requirements versus resource balance for future years for specific areas
- Substation interval metering data determines whether loads are following the adopted forecast
- Shortfalls presented to agency executives
- Implementation of contingency mitigation measures
 - agencies use their own planning and procurement responsibilities and procedures
 - Expedited implementation if authorized for these measures

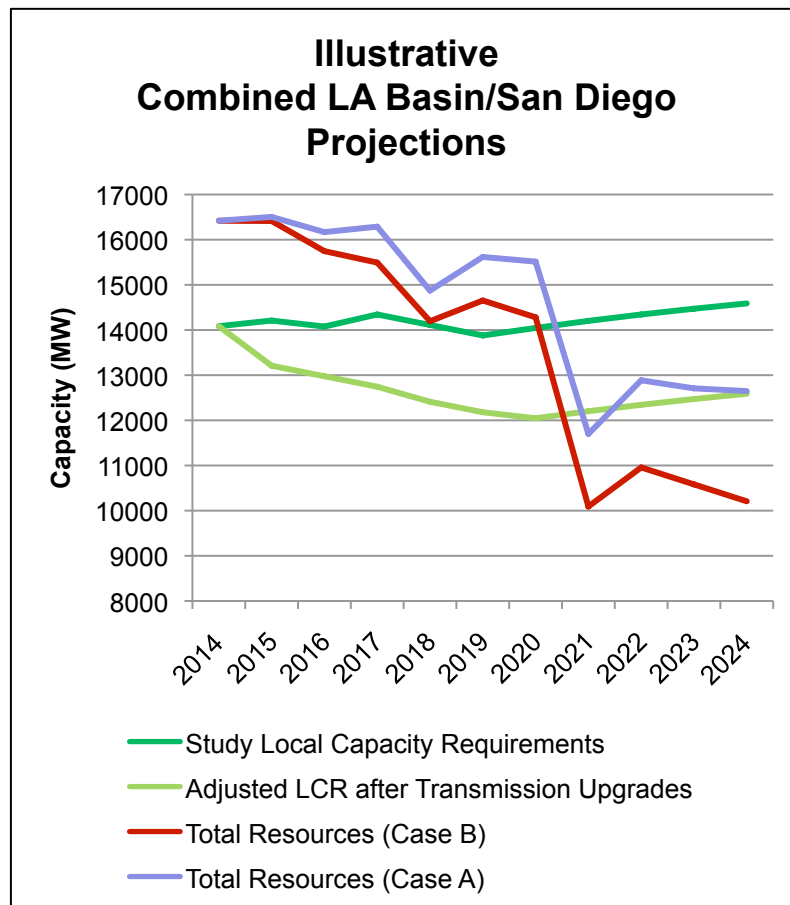


Annual Accounting Tool

- Create a new spreadsheet tool that produces annual results for areas of interest (e.g. LA Basin, San Diego and combined SONGS area)
- Tool would draw upon:
 - ISO local capacity power flow study results for snapshot years
 - Transmission upgrade impacts on local capacity requirements
 - Preferred resource and conventional power plant development expectations
 - Actual load bus data from SCE and SDG&E



Triggering Mitigation Measures



- Projection pattern dictates mitigation
- Case A - projections show a temporary gap
 - Trigger submission of a compliance date deferral request to SWRCB
- Case B - projections show a permanent gap
 - Trigger new fossil capacity option and/or renewable DG program



General Implementation Issues

- Tracking progress of preferred resources:
 - For existing programs adapt existing monitoring & evaluation processes to operate faster
 - For resources from D.14-03-004 create new monitoring mechanisms
 - develop expectations of future load reductions
- Track progress of power plants and transmission
- The LCR vs. resources spreadsheet tool:
 - Directly recommend that actions be triggered,
 - Use as a screening mechanism to be confirmed by power flow modeling studies?
- Special processing for mitigation measures?



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QUESTIONS?